

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: Andrew R. Barron et al.

Serial No.: 10/585,277

Filing Date: December 2, 2008

Art Unit: 1654

Confirmation No.: 2418

Examiner: Jeffrey E. Russel

Title: FULLERENE-BASED AMINO ACIDS

Mail Stop: Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**DECLARATION UNDER 37 CFR §1.132**

I, Dr. Andrew R. Barron, declare as follows:

1. I am over the age of 18 and fully competent to make this declaration. I have been informed that any false statements made in this declaration could affect the validity of any claims issuing from this application and subject me to possible punishment by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code.
2. I am the primary inventor of the above-referenced application (US Application Serial No. 10/585,277, hereinafter "Application"). Therefore, I am familiar with the Application. I am also highly skilled in the art of fullerene-based materials, including fullerene-based amino acids.
3. I am also familiar with the Examiner's rejection of the claims of the Application, as set forth in the Office Action mailed September 9, 2011 ("Office Action"). Specifically, I am aware that the Examiner has rejected claims 1-2, 4-7 and 9-16 under the first paragraph of 35

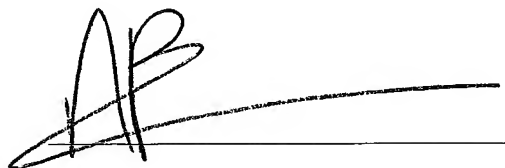
U.S.C. § 112 for allegedly failing to comply with the written description requirement. Office Action, page 6. I am also aware that the Examiner has alleged that there is “no original disclosure supporting the recitation of” a fullerene species that is derived from “a buckyketone” in claims 1 and 10. *Id.* Rather, the Examiner alleges that there is only a single buckyketone disclosed in the specification as buckyketone 1. *Id.* I am also aware of the Examiner’s allegation that “[t]o the extent that ‘a buckyketone’ is intended to encompass a broader range of compounds, the genus is not supported by the single originally disclosed species.” *Id.* For the reasons set forth below, I respectfully disagree with the Examiner.

4. The Application provides sufficient written description for amino acid compositions containing fullerene species derived from “a buckyketone.” For instance, in addition to buckyketone 1, the Application also discloses fullerenes with “two cyclohexagonal ketone rings.” *See, e.g.*, Paragraph 38 and FIG. 1 (identified as structure 6 or buckyketone 6). Furthermore, FIGS. 1-3 and 9-10 adequately disclose the structures of buckyketones 1 and 6.
5. In addition, the Application discloses relevant identifying characteristics of buckyketones. *See, e.g.*, Paragraph 34 (stating that, “[s]ince the ketone functionality is a very reactive functional group, reaction of buckyketone 1 can lead to a series of fullerene derivatives with potential medicinal applications.”). *Also see* Paragraph 36 and Scheme 2 in FIG. 1 (illustrating and describing how “the nucleophilic addition of buckyketone 1 and N--Ac-(4-amino)-Phe-OMe 2 readily leads to the formation of the buckylimine 3”). *Also see* Paragraphs 46 and 49-51.
6. In sum, I believe that the Application provides sufficient written description for fullerenes that are derived from “a buckyketone”, as described in claims 1 and 10.
7. I am also aware that the Examiner asserts that “there is no original disclosure supporting the recitation in claim 10 of a polymer comprising the general formulae, each of which comprises two terminal amine groups.” Office Action, page 6. I respectfully disagree with the Examiner because polymer compositions comprising two terminal amine groups can be

generated in instances where buckyketones comprising two ketone groups are utilized (such as buckyketone 6). Support for this embodiment can be found at least in Paragraph 38 and FIG. 1 (Scheme 1) of the Application. Such embodiments are encompassed within the scope of independent claim 10.

12/5/11

Date

A handwritten signature in black ink, consisting of stylized initials 'AR' followed by a long horizontal stroke, positioned above a solid horizontal line.

Andrew R. Barron